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(b) a secondary valve assembly integral with the primary valve assembly, the secondary valve assembly being configured to receive input signals from a programmable electronic controller, the secondary valve assembly including:

- (i) a second spool valve configured to operate with the primary valve assembly; and
- (ii) an actuator for engaging and actuating the second spool valve according to the input signals received from the programmable electronic controller such that the second spool valve assists the braking output produced by the primary valve assembly.

10. (Twice Amended) An electronically enhanced brake valve for controlling a braking output to a vehicle having at least one wheel, the brake valve comprising:

- (a) a primary valve assembly configured to receive a manually controlled input that varies the braking output, the primary valve assembly including:
 - (i) a first spool valve configured to vary the braking output according to the manually controlled input; and
- (b) a secondary valve assembly configured to receive input signals from a programmable electronic controller, the secondary valve assembly including:
 - (i) a second spool valve configured to operate with the primary valve assembly; and
 - (ii) an actuator configured to engage and actuate the second spool valve according to the input signals received from the programmable electronic controller such that the second spool valve increases the braking output produced by the primary valve assembly.

13. (Amended) The brake valve of claim 25, wherein:

- (a) the programmable electronic controller is configured to receive input from one or more electronic sensors such that the secondary valve assembly modulates the braking output produced by the primary valve assembly according to preset values.

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14. (Amended) The brake valve of claim 25, wherein:

(a) the programmable electronic controller is configured to receive input from one or more vehicle control systems such that the secondary valve assembly modulates the braking output produced by the primary valve assembly according to preset values.

17. (Amended) The brake valve of claim 25, wherein:

(a) the programmable electronic controller is configured to receive input from a serial control device such that the secondary valve assembly modulates the braking output produced by the primary valve assembly in real-time.

18. (Amended) The brake valve of claim 25, wherein:

(a) the programmable electronic controller is configured to receive input from one or more electronic sensors such that the secondary valve assembly modulates the braking output produced by the primary valve assembly in real-time.

19. (Amended) The brake valve of claim 21, wherein:

(a) the first pressure source is system pressure; and

(b) the second pressure source is ambient pressure.

Please add new claims 24-36.

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24. (New) The hydraulic braking system of claim 1, furthering including:

(a) a brake valve body including at least a first fluid chamber and a second fluid chamber, wherein the first spool valve of the primary valve partially defines the first fluid chamber, and the second spool valve of the secondary valve assembly partially defines the second fluid chamber.

25. (New) The brake valve of claim 10, wherein:

(a) the actuator configured to engage and actuate the second spool valve to increase the braking output produced by the primary valve assembly is also configured to engage and actuate the second spool valve according to the input signals received

from the programmable electronic controller such that the second spool valve decreases the braking output produced by the primary valve assembly.

26. (New) The brake valve of claim 10, wherein:

(a) the actuator includes a solenoid actuator having a coil and an armature for engaging and actuating the second spool valve to increase the braking output produced by the primary valve assembly.

27. (New) A braking system for providing a range of braking outputs, the braking system comprising:

(a) a pedal rotatable in a range of operating positions, the range including at least a first operating position;

(b) a primary valve assembly operating upon rotation of the pedal, the primary valve assembly having a fluid pressure chamber and a spring arrangement, the spring arrangement being arranged to compress when the pedal is rotated and transmit a force from the fluid pressure chamber to the pedal when the fluid pressure chamber is pressurized, the primary valve assembly providing:

(i) a first braking output and a first pedal feedback force, the first pedal feedback force corresponding to compression of the spring arrangement by the pedal when the pedal is positioned in the first operating position; and

(c) a secondary valve assembly in fluid communication with the fluid pressure chamber of the primary valve assembly, the secondary valve assembly being configured to operate with the primary valve assembly to assist the braking output of the braking system, the secondary valve assembly operating upon a signal from an electronic controller to pressurize the fluid pressure chamber of the primary valve assembly, the secondary valve assembly providing:

(i) a second braking output and a second pedal feedback force, the second pedal feedback force corresponding to:

1) compression of the spring arrangement of the primary valve by the pedal when the pedal is in the first operating position; and

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2) force derived from the pressurized fluid pressure chamber of the primary valve assembly provided when the electronic controller signals the secondary valve to operate.

28. (New) The braking system of claim 27, wherein:

- the spring arrangement is positioned adjacent to a piston, the piston partially defining the fluid pressure chamber, the spring arrangement being configured to provide the force derived from the pressurized fluid pressure chamber by movement of the piston and compression of the portion of the spring arrangement when the fluid pressure chamber is pressurized.

29. (New) A braking system comprising:

- an actuator mechanism configured to provide a manual control input, the manual control input including a range of input values;
- a primary valve assembly interconnected to the actuator mechanism, the primary valve assembly being configured to operate upon receipt of the manual control input;
- a secondary valve assembly arranged in fluid communication with the primary valve assembly, the secondary valve assembly being configured to operate upon receipt of an electronic input from a controller;
- wherein the braking system provides:
 - a first braking output and a corresponding first force that acts upon the actuation mechanism when the manual control input is operated at a first input value of the range of input values; and
 - a second braking output and a corresponding second force that acts upon the actuation mechanism while the manual control input is operated at the first input value of the range of input values.

30. (New) The braking system of claim 29, wherein:

- the first braking output and corresponding first force are provided when only the primary valve is operated.

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31. (New) The braking system of claim 29, wherein:
 - (a) the second braking output and corresponding second force are provided when the secondary valve assists the braking output provided by the primary valve.
32. (New) The braking system of claim 29, wherein:
 - (a) the manual control input corresponds to a position of an actuator mechanism.
33. (New) The braking system of claim 32, wherein:
 - (a) the manual control input corresponds to a rotational position of a pedal-operated actuator mechanism.
34. (New) A braking system providing a braking output, the braking system comprising:
 - (a) a pedal positionable in a range of operating positions;
 - (b) a primary valve assembly interconnected to the pedal, the primary valve assembly being configured to provide a pedal feedback force when the pedal is positioned at a first operating position of the range of operating positions;
 - (c) a secondary valve configured to operate with the primary valve;
 - (d) wherein the system defines an operating ratio of pedal feedback force to operating position, the secondary valve being configured to increase the operating ratio while the pedal remains in the first operating position.
35. (New) The braking system of claim 34, wherein:
 - (a) operation of only the primary valve assembly provides an initial operating ratio, and operation of the secondary valve in conjunction with the primary valve increases the operating ratio from the initial operating ratio to a second operating ratio.
36. (New) The braking system of claim 34, wherein:
 - (a) the operating ratio corresponds to the braking output of the system such that increasing the operating ratio of the system while the pedal remains in the first operating position also increases the braking output of the system.